LISTING OF CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A semiconductor laser comprising: an active waveguide extending in the longitudinal, lateral and vertical directions, comprising an active region, surrounded by a filler material and coupled to a distributed reflector, ~~characterized in that~~ wherein said distributed reflector is implemented in said filler material along at least one of the lateral sides of the active region and essentially parallel thereto ~~to them~~, in the form of at least a first photonic crystal ~~configuration~~ with a photonic band gap along said longitudinal axis, said first photonic crystal comprising a plurality of columns forming a periodic grating of diffracting elements with a lattice in the horizontal plane such that said lattice of grating has a shape of an equilateral triangle.

2. (Currently Amended) The laser of claim 1, ~~characterized in that~~ wherein said first configuration extends over one portion at least of the extension of the active region in the vertical direction, and over one portion at least of the extension of the filler material in the vertical direction.

3. (Currently Amended) The laser of claim 1, ~~characterized in that~~ wherein said ~~first configuration is a~~ first photonic crystal is formed by localized etching of the filler material in such a manner as to form hollow columns there or to leave columns of material remaining there, these columns comprising [[a]] the periodic grating of diffracting elements with [[a]] the lattice in the horizontal plane, which lattice has dimensions of roughly the wavelength of laser operation.

4. (Currently Amended) The laser of claim 3, ~~characterized in that~~ wherein said columns extend essentially parallel to said vertical direction of the active region.

5. (Cancelled)

6. (Cancelled)

7. (Currently Amended) The laser of claim 1, ~~characterized in that~~ wherein said first configuration is spaced away from the lateral sides of the active region by an essentially constant distance.

8. (Currently Amended) The laser of claim 1, ~~characterized in that~~ wherein said first configuration is spaced away from the lateral sides of the active region by a distance which varies along the extension of said active region in the longitudinal direction.

9. (Currently Amended) The laser ~~as claimed in one~~ of claim 1, ~~characterized in that~~ wherein said active waveguide comprises, on at least one of the longitudinal ends of the active region, a filler material in which, at a distance δL from the first configuration, reflection means are formed which are implemented in the form of a second photonic band gap configuration and extending essentially parallel to the extension of the active region in the lateral direction.

10. (Currently Amended) The laser of claim 9, ~~characterized in that~~ wherein said second configuration extends at least over the entire extension of the active region in the vertical direction.

11. (Currently Amended) The laser of claim 9, ~~characterized in that~~ wherein said second configuration extends over the entire extension of the active region in the lateral direction, and over one portion at least of the extension of the filler material in the lateral direction.

12. (Currently Amended) The laser of claim 9, ~~characterized in that~~ wherein said second configuration is a second photonic crystal formed by localized etching of the filler material in such a manner as to form hollow columns there or to leave columns of material remaining there, these columns comprising a periodic grating of diffracting elements with a lattice in the horizontal plane, which lattice has dimensions of roughly the wavelength of laser operation.

13. (Currently Amended) The laser of claim 12, ~~characterized in that~~ wherein said columns extend essentially parallel to said vertical direction of the active region.

14. (Currently Amended) The laser of claim 12, ~~characterized in that~~ wherein said lattice of the grating of the second first photonic crystal has the shape of a convex polygon.

15. (Currently Amended) The laser of claim 14, ~~characterized in that~~ wherein said polygon is a regular polygon.

16. (Currently Amended) The laser of claim 9, ~~characterized in that~~ wherein said distance δL is essentially equal to a whole number times half the wavelength of laser operation in the filler material such that the first and second configurations define a Fabry-Perot type resonant cavity.

Please add the following new claims:

17. (New) A semiconductor laser, comprising:

an active waveguide extending in the longitudinal, lateral and vertical directions, the active waveguide comprising:

an active region, surrounded by a filler material; and

at least one distributed reflector coupled to the active region, wherein said distributed reflector is implemented in said filler material in the form of at least a first photonic crystal with a photonic band gap along said longitudinal axis, said first photonic crystal includes a plurality of columns forming a periodic grating of diffracting elements, whereby said plurality of columns are positioned along at least one of the lateral sides of the active region such that an end of said plurality of columns is spaced from the lateral side at a first distance and another end of said plurality of columns is spaced from the lateral side at a second larger distance.

18. (New) A semiconductor laser, comprising:

an active waveguide extending in the longitudinal, lateral and vertical directions, the active waveguide comprising:

an active region, surrounded by a filler material;

at least one first distributed reflector coupled to the active region, wherein said distributed reflector is implemented in said filler material along at least one of the lateral sides of the active region and essentially parallel thereto, in the form of at least a first photonic crystal with a photonic band gap along said longitudinal axis; and

at least one second distributed reflector coupled to the active region, wherein said distributed reflector is implemented in said filler material along at least one of the longitudinal ends of the active region and essentially parallel thereto, in the form of at least a second photonic crystal with a photonic band gap configuration and extending essentially parallel to the extension of the active region in the lateral direction.

19. (New) The semiconductor laser of claim 18, wherein each photonic crystal includes a plurality of columns forming a periodic grating of diffracting elements with a lattice in the horizontal plane such that said lattice of grating has a shape of a convex polygon.

20. (New) The semiconductor laser of claim 18, wherein the convex polygon is dimensioned such that said first photonic crystal and said second photonic crystal have essentially identical Bragg wavelengths.